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# Two new species and faunistic records of the genus *Anomala* from China and adjacent regions (Coleoptera: Scarabaeidae: Rutelinae)

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**Abstract:** Two new *Anomala* species are described from Yunnan, China: *A. fenghuae* **sp. nov.** from Yingjiang County and *A. wenyiae* **sp. nov.** from Xishuangbanna. Furthermore, new distribution records for eight *Anomala* species are provided, two of which represent new country records for China.

**Keywords:** Anomalini, Indochina, Lamellicornia, new distribution, taxonomy, Vietnam

# 中国及周边区域的异丽金龟属 *Anomala* 两个新物种和新纪录（鞘翅目：金龟科：丽金龟亚科）

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**摘要：**描述了异丽金龟属 *Anomala* 两个新物种，即产自云南盈江县的凤华异丽金龟 *A. fenghuae* **sp. nov.** 和产自云南西双版纳的文艺异丽金龟 *A. wenyiae* **sp. nov.**。报道了八种异丽金龟的新分布，其中包含两个中国新纪录。

**关键词：**异丽金龟族，中南半岛，鳃角类，新分布，分类学，越南

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## Introduction

Since the revised edition of the Catalogue of Palaearctic Coleoptera, Chapter Rutelinae (Zorn & Bezděk 2016) was published, a number of new species of the genus *Anomala* Samouelle, 1819 from China and neighboring countries had been described (Huang & Wang 2019; Prokofiev 2021ab; Prokofiev 2024; Wang 2020, 2021abc, 2022, 2024; Wang & Zorn 2021; Zhao 2019, 2021, 2025; Zhao & Pham 2023; Zhao & Zorn 2022; Zhao *et al*. 2024; Zorn *et al.* 2017). During the study of Rutelinae specimens collected in southern and south-western Yunnan, two previously unknown species of *Anomala* were identified, which we describe and illustrate in the present paper. Additionally, new distributional records for another eight species of this genus are provided.

## Material and methods

Type specimens of the species described in this paper bear the following labels: 1. "HOLOTYPE (red)" or "PARATYPE (yellow)"; 2. "*Anomala* [species name] Wang & Zorn, 2025"; 3. Collecting data label. Data labels of type specimens are quoted verbatim. Separate label lines are indicated by a slash (/), and separate labels by a double slash (//).

Photos were taken using a Canon D60 digital camera with Canon AF 100 mm macro lens.

The material examined is housed in the following collections:

ANPC—personal collection of Alexander Napolov, Riga, Latvia

ASPC—personal collection of André Skale, Gera, Germany

CCPC—personal collection of Chang-Chin Chen, Tianjin, China

CWNU—China West Normal University, Nanchong, China (Ai-Min Shi)

CZPC—personal collection of Carsten Zorn, Gnoien, Germany

MYNU—Invertebrate Collection of Mianyang Normal University, Mianyang, China (Hao Xu)

MZUF—Università di Firenze, Museo Zoologico "La Specola", Italy NBCL — Naturalis Biodiversity Center, Leiden, The Netherlands

PPPC—personal collection of Petr Pacholátko, Brno, Czech Republic

WFPC—personal collection of Fa-Lei Wang, Chongqing, China

ZMPC—personal collection of Ming-Zhi Zhao, Zhuhai, China

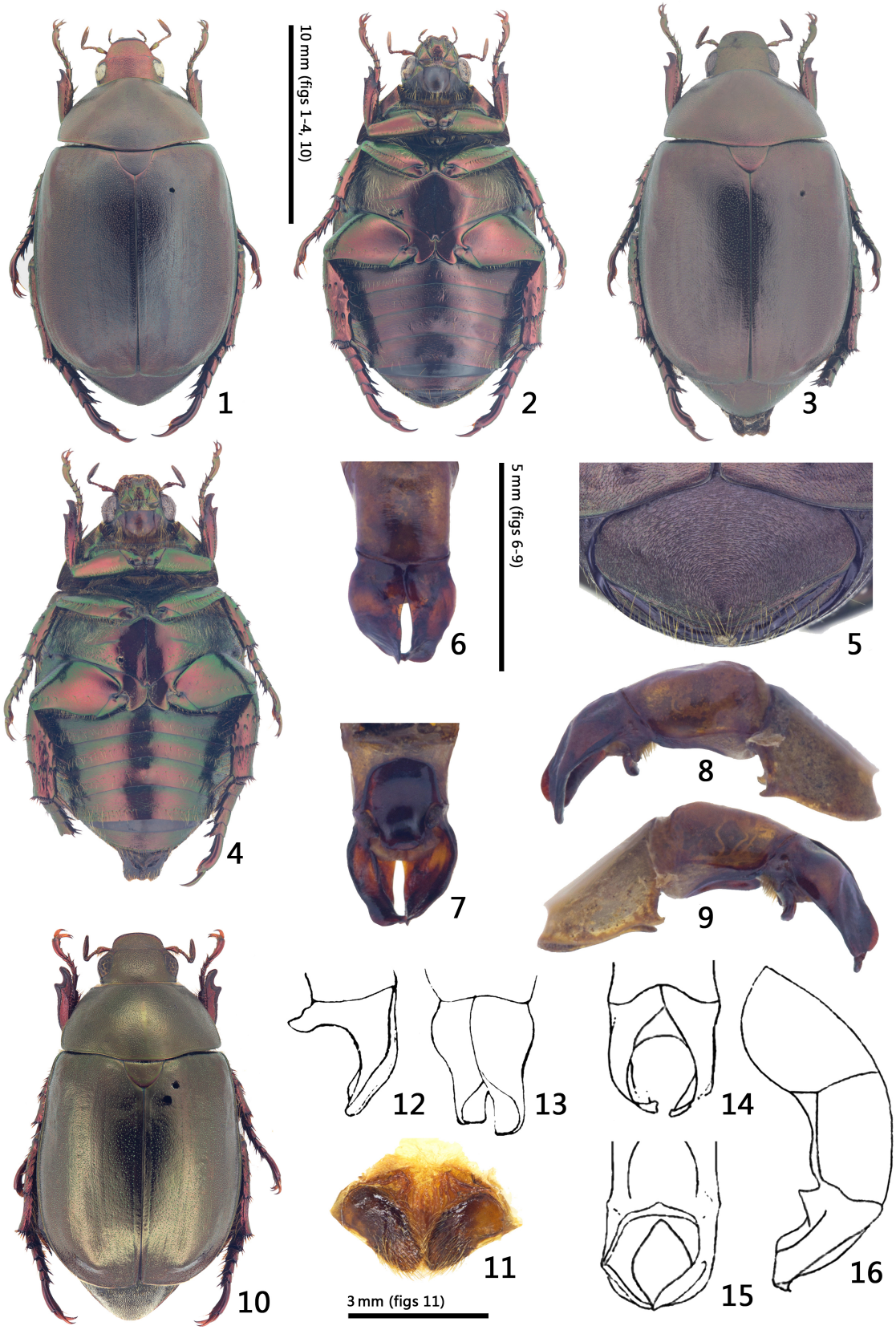
## Description of new species

### *Anomala fenghuae* sp. nov. 凤华异丽金龟

https://zoobank.org/DE18C550-BCD0-4ECF-9378-A160D3576508

Figs 1–9

**Type material. Holotype,** ♂ (MYNU): CHINA: Yunnan Province / Yingjiang County / Xima Town / VII–VIII.2019 / Wei-Zong Yang leg. // HOLOTYPE // *Anomala fenghuae* / Wang & Zorn, 2025. **Paratypes (60 ♂♂, 41 ♀♀)**: 1 ♀ (MYNU): CHINA: Yunnan Province / Yingjiang County, Xima / VII–VIII.2019 / Wei-Zong Yang leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 2 ♂♂, 1 ♀ (WFPC): CHINA: Yunnan Province / Yingjiang County, Xima / VII–VIII.2019 / Wei-Zong Yang leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 11 ♂♂, 6 ♀♀ (WFPC): CHINA: Yunnan Province / Yingjiang County, Mangyun Town / V–VI.2021 / Shao-Xing Chen leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 34 ♂♂, 23 ♀♀ (WFPC): CHINA: Yunnan Province / Yingjiang County, Mangyun Town / V–VII.2022 / Shao-Xing Chen leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 1 ♂, 1 ♀ (WFPC): CHINA: Yunnan Province / Dehong, Longchuan County / Jinghan, VI.2025 / Chang-Gui Liu leg. // PARA-




**FIGURES 1–16**. *Anomala* spp.: **1, 2, 5–9** *A. fenghuae* **sp. nov.**, holotype, male **3, 4** *A. fenghuae* **sp. nov.**, paratype, female **10, 11** *A. choui*, female (Yunnan, China) **12, 13** *A. cantori* (after Arrow 1917) **14–16** *A. cantorioides* (after Paulian 1959). **1–4, 10** habitus **5** pygidium of male **6–9, 12–16** male genitalia **11** vaginal palp. **1, 3, 10, 6, 13, 14** dorsal view **2, 4, 7, 15** ventral view **8** lateral view from right **9, 12, 16** lateral view from left.

TYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 5 ♂♂, 3 ♀♀ (CZPC): CHINA, SW Yunnan, / Longchuan co. 1500 m / v – viii. 2019 / local collector leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 2 ♂♂, 1 ♀ (ZMPC): CHINA, SW of Yunnan, / Longchuan County, 1500 m 2020.V–VIII / local collector leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 1 ♂, 3 ♀♀ (ASPC): CHINA, SW – Yunnan / Lonchuan county, 1500 m / 5-8. 2020 loc. coll. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 2 ♂♂, 1 ♀ (ZMPC): CHINA: Yunnan Prov., Dehong Pref. Yingjiang County, Taiping Town Mangyun Village 800-900 m vi.2018 local people leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 1 ♂ (CCPC): CHINA: YUNNAN, Ruili / Botanical Garden / 2014-VII-31 light trap / Nan-Yi Tsai leg. // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 1 ♀ (CCPC): Yunnan, Ruili Botanical Garden / 1127 m / 2014-IX-1 / small lamp trap Xiao-Dong Yang Leg. / 14Y0004 CCCC// PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025; 1 ♂ (ZMPC): Yunnan, Dehong, Lianghe County, Mengyang Town, Kazi Village Committe, 1580 m, 2020.V–VIII, light trap, Ying-Hui Lin // PARATYPE // *Anomala fenghuae* / Wang & Zorn, 2025.

**Description. Male (holotype).** Habitus (Figs 1, 2). Body broadly ovoid, rather convex in profile. Whole body dark brown with bronze metallic lustre and weak green reflections, which are stronger on head, legs, and abdomen, depending on perspective.

Head. Clypeus subtrapezoidal, length greater than width, anterior corners broadly rounded, anterior margin slightly reflexed, sides margined, surface with dense and reticulate punctures; fronto-clypeal suture nearly complete, slightly retroflexed in the middle; frons densely punctate, small punctures coalescent; interocular distance equals 0.67 times the maximum transverse head width; vertex with dense punctures; antennal club shorter than footstalk.

Pronotum widely trapezoidal, sides distinctly curved, anterior 1/2 almost straight; anterior marginal line complete, posterior marginal line disappearing between basal corners of scutellum, anterior angles obtuse, posterior angles sub-rectangular; disc densely punctate, punctures becoming gradually denser and smaller as well as rugoso-punctate or partly coalescent toward the side.

Scutellum 1.7 times as wide as long, apex rounded; basal surface with dense and small punctures, gradually becoming sparser and larger toward the apex.

Elytra 0.9 times as wide as long, widest in the middle; surface densely punctate, punctation denser at the sides, three inner primary striae slightly sulcate; subsutural interstice with dense punctures; humeral umbone weakly developed, with sparse punctures; epipleuron reaching from humeral umbone to posterior 1/3 of elytron.

Propygidium with dense, transversely striolate punctures; sides margined.

Pygidium weakly tumid in profile, surface with dense transverse striolation which is arranged concentrically around the tumidity (Fig. 5); apex with long yellow setae.

Abdominal ventrites with dense transverse punctures in the middle, gradually becoming denser and more transverse toward the sides, laterally adjacent to each other, partly coalescing and forming small transverse striae; all ventrites with a transverse row of yellow setae, with denser patch of setae the sides.

Legs. Protibia bidentate, terminal tooth slightly prolonged, basal tooth sub-rectangular; mesotibia and metatibia fusiform, inner surface with a row of strong setae; protarsal inner claw and mesotarsal outer claw deeply clefted, metatarsus rather strong.

Genitalia as in Figs 6–9.

**Female**. Similar to males in general appearance (Figs 3, 4) but different in the following characters: 1) body generally slightly stouter; 2) terminal tooth of protibia spatulate, blunt at apex; 3) inner margin of protarsal claw not widened; 4) protibial spur articulated more proximal.

**Measurements**. Body length: 18.4–22.2 mm for male (holotype 22.1 mm), and 18.6–23.0 mm for female; greatest width: 13.9–14.3 mm for male (holotype 14.2 mm), and 14.1–14.6 mm for female.

**Variability**. Anterior angle of pronotum, posterior faces of meso- and metafemur, lateral margin of metacoxa and a spot on the lateral margin of each abdominal ventrite yellow in several paratypes from Longchuan county.

**Differential diagnosis.** The new species is closely related and very similar to *Anomala cantori* (Hope, 1839)

from the Himalaya, *A. cantorioides* Paulian, 1959 from northern Vietnam, Thailand, Laos, Myanmar, and southern China, and *Anomala pictipes* Arrow, 1917 from northeastern India (Assam) and Myanmar (Wang & Zorn 2021). *Anomala fenghuae* **sp. nov.** differs from *A. cantori* (Figs 12, 13) in having a slightly more rounded body shape, a more shining dorsal surface, and the more domed parameres with pointed apices. Compared to *A. cantorioides* (Figs 14–16), the parameres of *A. fenghuae* **sp. nov.** are wider and more asymmetric in dorsal view. This new species differs from *A. pictipes* in having moderately asymmetric parameres and a monochromatic body color. Furthermore, *Anomala fenghuae* **sp. nov.** resembles *A. choui* Lin, 1999 and *A. hoplites* Ohaus, 1938 in general appearance, but can be easily distinguished from them by its glabrous pygidium (except for the long setae at the apex). In contrast, the pygidium of *A. choui* (Fig. 10) and *A. hoplites* is covered with dense and short greyish hairs. Moreover, the ventral surface and legs of these two species have a metallic red luster, which is missing in *A. fenghuae* **sp. nov.** *Anomala choui* and *A. hoplites* are probably not closely related to *A. fenghuae* **sp. nov.** but only superficially similar.

**Etymology.** The new species is named after the first author's mother, Feng-hua Jiao.

**Distribution.** *Anomala fenghuae* **sp. nov.** is known from Dehong Prefecture in southwestern Yunnan Province, southwestern China.

## *Anomala wenyiae* sp. nov. 文艺异丽金龟

https://zoobank.org/6BF0CCCD-B411-4125-95B1-C77EFDE0837A

Figs 17–24

**Type material. Holotype:** ♂ (MYNU): CHINA, Yunnan / Xishuangbanna / Mengla County / Jinuo Mount / 1200 m, 2020.VI-VIII / Yi Li leg. // HOLOTYPE // *Anomala wenyiae* / Wang & Zorn, 2025. **Paratypes (1 ♂, 2 ♀♀):** 1 ♀ (MYNU): CHINA, Yunnan / Xishuangbanna / Mengla County / Jinuo Mount / 1200 m, 2020.VI-VIII / Yi Li leg. // PARATYPE // *Anomala wenyiae* / Wang & Zorn, 2025; 1 ♂, 1 ♀ (ZMPC): China: Yunnan, Xishuang- / banna, Yexianggu 野象谷 / 790 m 2021.V.10 at light / Bao-Xiang Zhan & Xun Li leg. // PARATYPE // *Anomala wenyiae* / Wang & Zorn, 2025.

**Description. Male (holotype).** Habitus (Figs 17, 18). Body elongate ovoid, weakly convex in profile. Head dark reddish brown, clypeus partly brown; pronotum brown with reddish brown disc and dark brown anterior and posterior margins; scutellum brown with dark brown lateral margin; elytra generally brown, anterior margin, margin along scutellum, sutural margin, and middle third of lateral margin dark reddish brown; pygidium brown; tarsi reddish brown, meso- and metatarsus partly blackened, protibia and mesotibia brown with darker extremity, metatibia dark reddish brown with blackened apex, all femurs brown; abdomen brown, posterior margin of abdominal ventrites darker.

Head. Clypeus trapezoidal with rounded anterior corners, anterior margin slightly reflexed, surface with deep punctures, rugose in the middle; fronto-clypeal suture weak; frons sparsely and shallowly punctate; interocular distance equals 0.48 times the maximum transverse head width; vertex with sparser punctures than frons; antennal club longer than footstalk.

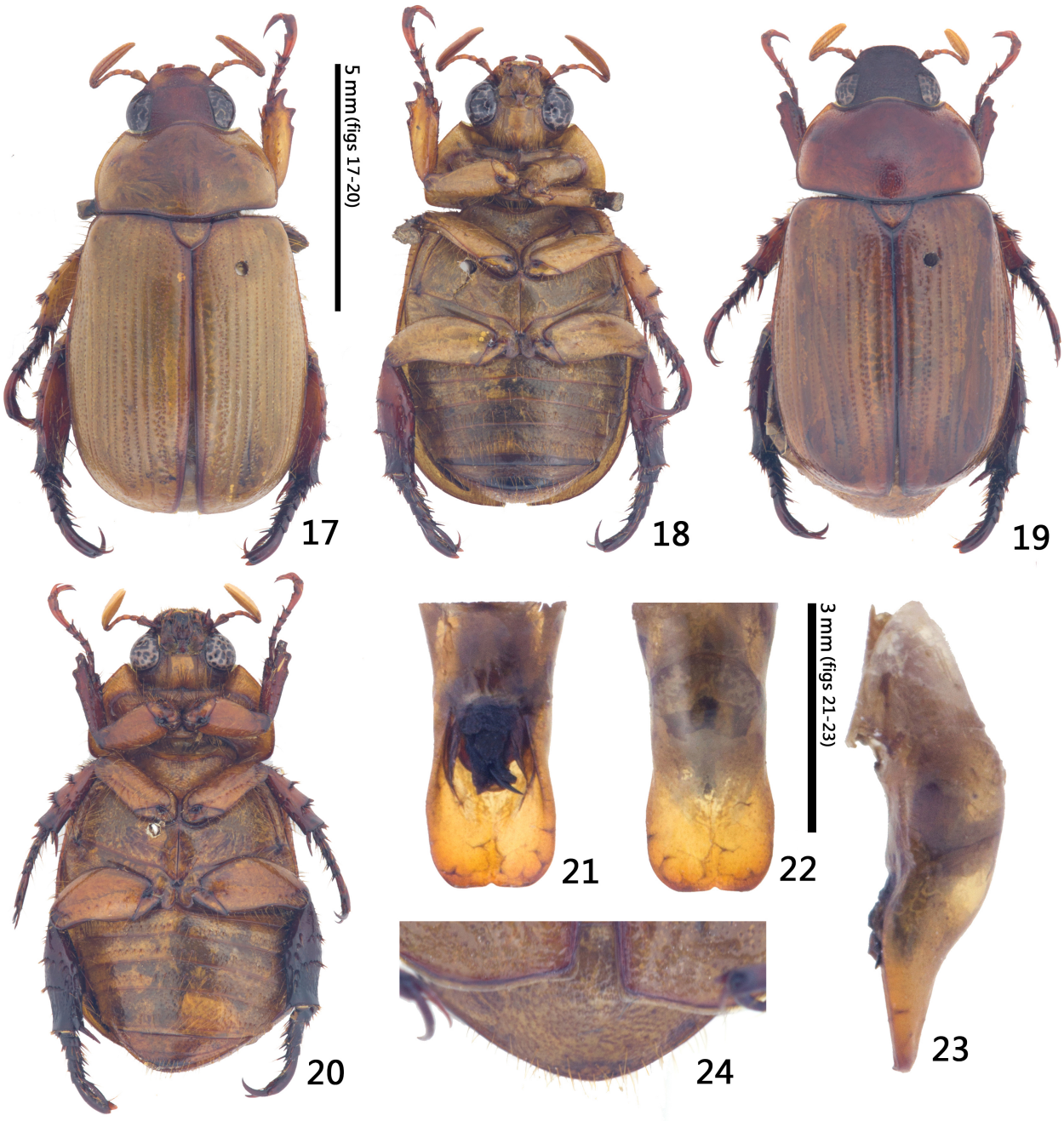
Pronotum. Sides curved in the middle; anterior and posterior marginal line complete, lateral margin wide and flat; anterior angles subrectangular, posterior angles broadly obtuse; disc densely and deeply punctate, sparser toward the sides and posterior angles.

Scutellum 1.48 times as wide as long; surface with sparse and deep punctures.

Elytra 0.83 times as wide as long, widest approximately in the middle, with regularly impressed striae, irregularly, largely, deeply punctate, subsutural interstice abruptly narrowed in the posterior 1/4; humeral umbone weak, surface smooth; lateral margins flat in the middle, epipleuron narrow.

Propygidium with dense transverse striae.

Pygidium weakly convex in profile, disc with dense, large, deep punctures, smaller toward the sides; lateral margins and apex with long yellow setae.




**FIGURES 17–24**. *Anomala wenyiae* **sp. nov.**: **17, 18, 21–24** holotype, male **19, 20** paratype, female. **17–20** habitus **21–23** male genitalia **24** pygidium of male. **17, 19, 22** dorsal view **18, 20, 21** ventral view **23** lateral view from left.

Abdominal ventrites with large transverse punctures in the middle, denser toward the sides; all ventrites with a transverse row of long yellow setae.

Legs. Protibia rather broad, tridentate, terminal tooth slightly prolonged, basal tooth obtuse; mesotibia and metatibia fusiform, surface of mesotibia smooth; protarsus slender, meso- and metatarsus slightly thickened, protarsal and mesotarsal inner claw slightly clefted.

Genitalia as in Figs 21–23.

**Female.** Similar to males in general appearance (Figs 19, 20) but different in following characters: 1) body color darker, more reddish dark brown color; 2) surface of clypeus with denser and deeper punctures, eyes smaller; 3) protibia narrower, mesotarsus not thickened.

**Measurements.** Body length: 11.2–12.1 mm for male (holotype 12.1 mm) and 12.9–13.2 mm for female, greatest width: 6.1–6.4 mm for male (holotype 6.4 mm) and 6.7–7.0 mm for female.

**Differential diagnosis.** The new species is characterized by the apomorphic state of the aedeagus, in which parameres, median part, and ventral plate are usually fused into a single tubular piece and the parameres are flattened. This type of aedeagus can be found in the following Asian *Anomala* species: *A. acromialis* (Ohaus, 1916), *A. andamanica* Arrow, 1917, *A. aspera* Ohaus, 1914, *A. biharensis* Arrow, 1917, *A. blanchardi* Arrow, 1917, *A. brachypus* Bates, 1891, *A. breviceps* Sharp, 1881, *A. breviuscula* (Candèze, 1869), *A. chalcophysa* (Ohaus, 1916), *A. communis* (Burmeister, 1844), *A. conformis* Walker, 1859, *A. czorni* Prokofiev, 2015, *A. dorsopicta* Arrow, 1912, *A. fallaciosa* Arrow, 1917, *A. gravida* Arrow, 1911, *A. hebescens* Ohaus, 1915, *A. infantilis* Arrow, 1911, *A. latipes* Arrow, 1912, *A. madrasica* Arrow, 1917, *A. marginipennis* Arrow, 1912, *A. meggitti* Ohaus, 1935, *A. menadocola* (Burgeon, 1932), *A. mollis* Arrow, 1917, *A. niasiana* Ohaus, 1916, *A. pallida* (Fabricius, 1775), *A. pellucida* Arrow, 1911, *A. semiusta* Arrow, 1912, *A. stenoptera* Arrow, 1917, *A. tristis* Arrow, 1917, *A. variivestis* Arrow, 1917, and *A. walkeri* Arrow, 1899. Furthermore, the above mentioned species usually have a pale or light brown body color, often with blackish markings; the protibia is usually tridentate, and the incision of the bigger mesotarsal claw is often reduced; the endophallus usually bears spinose sclerites which are often exposed ventrally of the parameres; the basal marginal line of the pronotum is always complete; the metatibia is fusiform, sometimes very broad. *Anomala wenyiae* **sp. nov.** can be separated from all those species by the combination of the following characters: the absence of black markings dorsally (except for a darkened elytral suture), the rather slender fusiform metatibia, the tridentate protibia (bidentate in the *A. variivestis*, also occurring in Yunnan), the uncleft outer mesotarsal claw, and the unique shape of the parameres, which are fused into an apically evenly rounded lobe (Figs 21–23).

**Etymology.** The new species is named after the first author's wife, Wen-Yi Liao.

**Distribution.** Known so far only from Yunnan Province, southwestern China.

## Faunistic records

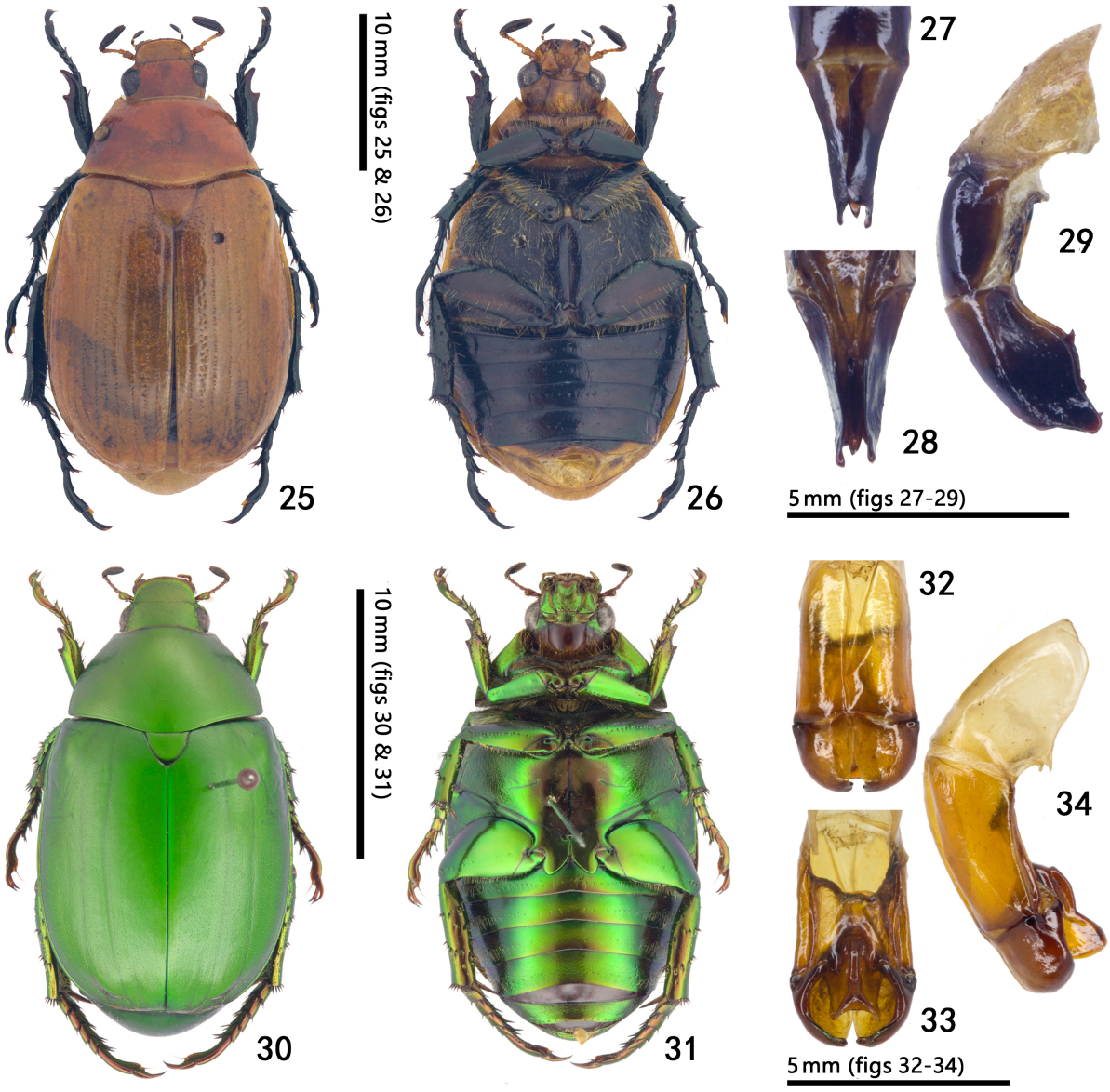
### *Anomala antiqua* (Gyllenhal, 1817) 古黑异丽金龟

**Specimens examined. CHINA: Chongqing:** 3 ♂♂ (WFPC), Mount Zhaomu, Chongqing, VI.2024, Fa-Lei Wang leg.; **Guangdong:** 1 ♂, 2 ♀♀ (WFPC), Mount Tanglang, Guangdong, 3.VI.2016, Xin Chen leg.; 1 ♀ (WFPC), Zhuhai City, Guangdong, 2015, Ming-Zhi Zhao leg.; **Guangxi:** 5 ♂♂, 3 ♀♀ (WFPC), Hepu County, Beihai City, Guangxi, VI.2016, Shuai Yu leg.; 1 ♀ (WFPC), Mountains Shiwandashan, Guangxi, VIII.2015, Chun-Fei Li leg.; 1 ♀ (WFPC), Mount Dayaoshan, Guangxi, VIII.2018, local leg.; **Hainan:** 1 ♂, 1 ♀ (WFPC), Hilton Hotel, Yalongwan, Hianan, 18.V.2017, Fa-Lei Wang leg.; 1♀ (MYNU), watchtower, Fengmenling, Shuiman, Wuzhishan, Hainan, 18.8374 N, 109.6442 E, alt. 880 m, 2023.V.23, Xin-Yuan Zhang, Hao Xu & Ting Xiong leg.; **Jiangsu:** 2 ♀♀ (WFPC), Jiangpu Farm, Nanjing City, Jiangsu, 18.VII.2012, Xue-Mei Wu & Yan-Qing Wu leg.; **Sichuan:** 1 ♀ (CWNU), Sichuan, Langzhong City, Qili town, 5.VII.2009, Yong-Fu Wang & Ru-Yi Li leg.; 1 ♂ (CWNU), Sichuan, Jianyang City, Shiqiao Town, 14.VII.2009, Ai-Ming Shi leg.; 1 ♂ (CWNU), Sichuan, Weiyuan County, Hulugou, 18–19.VII.2011, Qiao-Hua Wang leg.; 1 ♀ (MYNU), campus of Mianyang Normal University, Mojia, Fucheng, Mianyang, 31.4596 N, 104.5930 E, alt. 490 m, 2024.VII.30, Xin-Man Yang leg.; **Yunnan:** 1 ♀ (WFPC), Yunnan, Gejiu City, Manhao Town, Yidaogou, 19.VI.2015, Zi-Zhong Yang leg.

**Distribution.** AUSTRALIA; CAMBODIA; CHINA: Chongqing (**new record**), Fujian, Guangdong, Guizhou, Guangxi, Hainan, Jiangsu (**new record**), Jiangxi, Macao, Sichuan, Yunnan; INDONESIA; LAOS; MALAYSIA; MYANMAR; NEPAL; THAILAND; VIETNAM.

**Remarks.** This widespread species has been reported from Australia (Arrow 1917; Jin *et al*. 2014; Zorn & Bezděk 2016), Cambodia (Paulian 1959), Indonesia (Ohaus 1932; Perty 1831), Nepal (Arrow 1917), Laos (Paulian 1959), Malaysia (Ohaus 1932), Thailand (Miyake *et al*. 2002; Ohaus 1932), Vietnam (Paulian 1959), as well as southern China, including Fujian, Guangdong, Guizhou, Hainan, Jiangxi, Macao, Yunnan (Lin 1987, 2002ab; Yang

1989; Zorn & Bezděk 2016). This species was simply listed from four provinces of China (Hebei, Hunan, Guangxi, Sichuan) by Lin (2002ab), and the examined specimens of this species with detailed data herein confirm its presence in Guangxi and Sichuan provinces. Moreover, this species is newly recorded from Jiangsu province based on three females.




**FIGURES 25–34**. *Anomala* spp.: **25–29** *A. atriventris* (Yunnan, China) **30–34** *A. chlorophylla* (Yunnan, China). **25, 26, 30, 31** habitus **27–29, 32–34** male genitalia. **25, 27, 30, 32** dorsal view; **26, 28, 31, 33** ventral view; **29, 34** lateral view from right.

### *Anomala atriventris* Zorn, 2011 黑腹异丽金龟

Figs 25–29

**Specimens examined. CHINA: Yunnan:** 1 ♂ (WFPC), Wenshan Protection Station, Wenshan City, Wenshan Zhuang and Miao Autonomous Prefecture, VI.2018, Qing-Song Ge leg.

**Distribution.** CHINA (**new country record**): Yunnan; VIETNAM.

**Remarks.** This rarely collected species is here recorded for the first time from China (Yunnan province) based on one male collected in Wenshan City near the Sino-Vietnamese border. This species was previously known only from five specimens from Vietnam (Zorn 2011; Zorn *et al*. 2017).

### *Anomala cypriogastra* Ohaus, 1938 墨绿异丽金龟

**Specimens examined. CHINA: Chongqing:** 1 ♂ (WFPC), Feilongmiao, Mount Simianshan, Jiangjin District, Chongqing, 2015.VI.5, Jian-Yue Qiu leg.; 1 ♂ (WFPC), Mount Simianshan, Jiangjin District, Chongqing, 2016.VI.4, Lu Qiu leg.; **Fujian:** 1 ♂, 1 ♀ (WFPC), Wushiyan, Tongmu, Mount Wuyishan, Fujian, 920 m, 7.VI.2019, Zhi-Hao Qi leg.; 1 ♂, 1 ♀ (CZPC), Shaowu env., 25 km road Shaowu–Taining, 13.-16.VI.1991, M. Nykodým leg.; **Guangdong:** 1 ♂ (WFPC), Longxian Town, Wengyuan county, Shaoguan City, Guangdong, 2017.VI–VII, local leg.; 3 ♂♂, 4 ♀♀ (WFPC), Mount Houzidongshan, Wengyuan county, Shaoguan City, Guangdong, 2018.VII–VIII, Jian-Wei Chen leg.; **Guangxi:** 1 ♂ (WFPC), Mount Dayaoshan, Guangxi, 2009.VII, Zhuo Chen leg.; **Hainan:** 1 ♂ (WFPC), Mount Wuzhishan, Hainan, 1200 m, 2019.IV.12–14, Jian-Yue Qiu leg.; **Hunan:** 1 ♂, 1 ♀ (WFPC), Xianchijie, Mount Guniushan, Wuyunjie, Taoyuan County, Hunan, 100 m, 2019.VI.20–24, Hao Xu leg.; **Sichuan:** 1 ♀ (WFPC), Tiantangba, Hejiang County, Luzhou City, Sichuan, 1200 m, 2016.VI, Jian-Yue Qiu leg.; **Yunnan:** 10 ♂♂, 6 ♀♀ (WFPC), Jinping County, Honghe Prefecture, Yunnan, 18–25.VI.2018, Yun-Chuan Xu leg.

**Distribution.** CHINA: Chongqing (**new record**), Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan (**new record**).

**Remarks.** This species was previously known from the Chinese provinces of Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan, and Taiwan (Lin 2002b; Machatschke 1955; Ohaus 1938; Zorn & Bezděk 2016; Lu & Bai 2020). The specimens here we examined from Chongqing and Yunnan greatly extend the known range of the geographical distribution to southwestern China.

### *Anomala chlorophylla* Arrow, 1917 叶绿异丽金龟

Figs 30–34

**Specimens examined. CHINA:** 1 ♂ (WFPC), Mangyun Town, Yingjiang County, Dehong, Yunnan, 10–15.VI.2022, Shao-Fu Chen leg.

**Distribution.** CHINA (**new country record**): Yunnan; MYANMAR.

**Remarks.** This species was previously known from Myanmar (Arrow 1917) and is here newly recorded from China based one male specimen collected from Yunnan.

### *Anomala nubeculosa nubeculosa* Ohaus, 1905 云斑异丽金龟指名亚种

**Specimens examined. CHINA: Guangdong:** 1 ♂ (WFPC), Mount Nanling, Guangdong, 2016.V.1, Bi-Hui Zhan leg.; **Guangxi:** 2 ♂♂ (WFPC), Mount Dayaoshan, Jinxiu County, Laibin City, Guangxi, 15.VII.2019, Chun-Fu Feng leg.; **Yunnan:** 2 ♂♂ (WFPC), Wenshan Protection Station, Wenshan City, Wenshan Zhuang and Miao Autonomous Prefecture, VI.2018, Qing-Song Ge leg.

**Distribution.** CHINA: Guangdong (**new record**), Guangxi, Yunnan (**new record**); LAOS, VIETNAM.

**Remarks.** This species was previously recorded from China (Guangxi), Laos, and Vietnam (Ohaus 1905; Paulian 1959; Zorn *et al*. 2017). A previous record from Yunnan provided in Zorn (2006), and subsequently in Zorn & Bezděk (2016) and Zorn *et al*. (2017) was based on incorrectly labeled material. Therefore, the specimens reported here from Yunnan represent a new provincial record. The record from Guangdong reported here is the most eastern distribution record to date.

### *Anomala rugiclypea* Lin, 1989 褶唇异丽金龟

**Specimens examined. CHINA: Fujian:** 1 ♂ (WFPC), Junzhu, Mount Mangdang, Chengxiang Twon, Wuping County, Longyan City, Fujian, 2018.VI.17, Jian-Bin Huang leg.; **Guangxi:** 1 ♂, 1 ♀ (WFPC), Mount Dayaoshan, Guangxi, VIII.2018, local leg.; **Hainan:** 1 ♂, Mount Wuzhishan, Hainan, 1200 m, 2019.IV.12–14, Jian-Yue Qiu leg.; **Hubei:** 2 ♂♂ (WFPC), Songluo, Shennongjia, Hubei, 2017.VII.12, Lu Qiu leg.; **Hunan:** 1 ♂ (CZPC): Zhangjiajie, Wuling Shan, 700 m, 29.4N 110.4E, 04.-07.VII.2003, Jaroslav Turna leg.; **Shaanxi:** 1 ♂ (CZPC), Lueyang, 04.-06.VI.1997, E. Kučera leg.; **Sichuan:** 1 ♂ (CZPC), Pshin env., near Huatan, 80 km sw of Yaan, 16.VII.1995, Zd. Jindra leg.; 1 ♂ (CZPC), Pingwu, 32°15'N 104°16'E, 03.-09.VI.1997, E. Kučera leg.; 1 ♀ (CZPC), Pingwu, 02.-04.VI.2001, E. Kučera leg. 1 ♂ (CZPC), Jiulonggou near Dayi (ca. 60 km w of Chengdu), 31°00'N 103°30'E, 27.VI.-02.VII.1995, M. Trýzna et O. Safránek leg. 1 ♂, 1 ♀ (WFPC), Jiulonggou, Chongzhou, Chengdu City, Sichuan, 800 m, 2016.VI, Chao Zhou leg.; **Yunnan:** 1 ♂ (WFPC), Wenshan Protection Station, Wenshan City, Wenshan Zhuang and Miao Autonomous Prefecture, VI.2018, Qing-Song Ge leg.; **Zhejiang:** 1 ♂ (WFPC), Pan'an, Zhejiang, VI–VII.2016, Su-Jiong Zhang leg.

**Distribution.** China: Fujian, Guangdong, Guangxi, Hainan, Hubei, Hunan, Jiangxi, Sichuan, Shanxi, Shaanxi, Yunnan, Zhejiang (**new record**).

**Remarks.** This species is widespread in China (Lin 1989; Zorn & Bezděk 2016; Lu & Bai 2020). The specimen from Zhejiang reported here has a dark brown abdomen with blackish mesotibia which matches the original description in Lin (1989). All other specimens examined in this study from other provinces have strong metallic green reflections on abdomen and tibiae.

### *Anomala russiventris* Fairmaire, 1893 褐腹异丽金龟

**Specimens examined. CHINA: Fujian:** 1 ♂ (WFPC), Yongan City, Fujian, VII.2015, Fa-Lei Wang leg.; **Guangdong:** 1 ♂ (WFPC), Mount Meilinshan, Shenzhen, Guangdong, V.2015, Xin Chen leg.; **Guangxi:** 1 ♂ (WFPC), Zhongliang Village, Jinxiu County, Laibin City, Guangxi, 15–30.V.2020, B.-Y. Jin leg.; **Hong Kong:** 1 ♂ (CZPC), Tai Tan Pk. (Jardine's lookout), 22.V.2000, P.S.P. Fong leg.; **Hubei:** 1 ♂ (WFPC), Songluo, Shennongjia, Hubei, 2017.VII.12, Lu Qiu leg.; **Yunnan:** 1 ♂ (WFPC), Baihualin, Mount Gaoligongshan, Baoshan City, Yunnan, 2016.5, Z-W Dong leg. 1 ♀ (CZPC), Luxi, Mangshi env., 29.V.1995, S. Becvar & Z. Kadlec leg.; **Zhejiang:** 1 ♂ (WFPC), Mount Shicangshan, Zhejiang, 2015.7.; **LAOS:** 1 ♂ (WFPC), LAOS, Xiang Khoang prov., Khoun, alt. 1000 m, 2019.V.5–15, Z.-W. Dong & local leg.

**Distribution.** CAMBODIA; CHINA: Fujian, Guangdong, Guangxi, Guizhou, Hubei (**new record**), Yunnan, Zhejiang (**new record**); LAOS; MALAYSIA; MYANMAR; THAILAND; VIETNAM.

**Remarks.** This species was well reviewed by Zhao (2019) and reported from Cambodia, China (Fujian, Guangdong, Guizhou, Guangxi, Yunnan, Hongkong, Hainan), Laos, Malaysia, Myanmar, Thailand, and Vietnam. Herein we report new distributional records from the Chinese provinces of Hubei and Zhejiang.

### *Anomala virens* Lin, 1996 大绿异丽金龟

**Specimens examined. CHINA: Anhui:** 1 ♀ (WFPC), Hougu, Mount Huangshan, Anhui, 10–13.VIII.2013, Hai-Tian Song leg.; **Chongqing:** 1 ♂, 2 ♀♀ (CWNU), Mount Jinyunshan, Beibei, Chongqing, 5.VII.2011, Chun-Xiang Li leg.; 2 ♂♂ (CWNU), Mount Jinyunshan, Beibei, Chongqing, 5.VII.2011, Shi-Ni Li leg.; 1 ♂ (CWNU), Mount Jinyunshan, Beibei, Chongqing, 5.VII.2011, Rui-Bu Li leg.; 1 ♂ (CWNU), Mount Jinyunshan, Beibei, Chongqing, 5.VII.2011, He-Yue Xiong leg.; **Fujian:** 2 ♀♀ (WFPC), Mount Wuyishan, Fujian, VII.2016, Zhi-Hao Qi leg.; 1 ♂ (WFPC), Mount Wuyishan, Fujian, alt. 1400 m, 28.VI.2017, Ren-Zhi Zhang leg.; 1 ♀ (WFPC), Dawangao, Mount Wuyishan, Fujian, alt. 600 m, 16.VI.2018, Zhi-Hao Qi leg.; 1 ♀ (WFPC), Mali town, Mount Wuyishan, Fujian, 14.VII.2018, Zhi-Hao Qi leg.; 1 ♀ (WFPC), Tourist Centre, Mount Wuyishan, Fujian, 9.VIII.2018, Hai-Tian Song leg.; 3 ♂♂, 1 ♀ (WFPC), Mount

Damoshan, Sanming, Fujian, alt. 1400 m, 15.VI.2018, Xin Liu leg.; **Guangdong:** 1 ♂, 1 ♀ (WFPC), Mount Nankunshan, Guangzhou, Guangdong, VII.2015, Xin Chen leg.; 1 ♀ (WFPC), Mount Nanling, Ruyuan County, Shaoguan, Guangdong, VI.2013; 1 ♂ (WFPC), Nanling Protection Station, Ruyuan County, Shaoguan, Guangdong, alt. 1010 m, 25.V.2019, Wen-Yi Zhou leg.; 4 ♀♀ (CZPC) Guangdong Province, Shaoguan Distr., Nanling Mts Nature Resort, Guest house ca. 10 km W Wuzhishan, 1000 m, N24°55'48" E113°00'53", 2.-6.VII.2012, A. Kallies & Y. Arita leg., lux.; **Guangxi:** 1 ♂, 1 ♀ (WFPC), Ziyuan County, Guilin, Guangxi, VI–VII.2019, You Xiao leg.; 1 ♂ (WFPC), Mount Dayao, Jinxu County, Nanning, Guangxi, 2014, Bao-Sheng Su leg.; 3 ♂♂, 2 ♀♀ (WFPC), Ziyuan County, Guilin, Guangxi, VI–VIII.2019, Wen Jin leg.; **Guizhou:** 6 ♂♂, 1 ♀ (WFPC), Taojiang, Mount Leigongshan, Leishan County, Guizhou, 3.VIII.2019, Gui-Qiang Huang leg.; 1 ♀ (WFPC), Xiannvtang, Mount Leigongshan, Leishan County, Guizhou, 29–31.VII.2019, Gui-Qiang Huang leg.; 1 ♂, 1 ♀ (WFPC), Sansheng Temple, Kaili, Guizhou, 28.VI.2016, Ren-Zhi Zhang leg.; **Hainan:** 2 ♂♂ (WFPC), Mount Jiangfengshan, Ledong County, Hainan, III.2017, Huan Yang leg.; **Hubei:** 2 ♂♂, 2 ♀♀ (WFPC), Qingtaiguan, Mount Dabieshan, Hubei, 1-3.VII.2014, Xin-Ran Li leg.; 1 ♂ (WFPC), Mount Wujiashan, Yingshan County, Hubei, 28–30.VI.2014, Yan Shi leg.; 1 ♀ (WFPC), Mulan Lake, Wuhan, Hubei, 13.VI.2015, Chong-Jian Zhou leg.; 1 ♀ (WFPC), Hongan County, Hubei, 15.VII.2015; 1 ♂ (WFPC), Hongan County, Hubei, alt. 1000 m, VI–VIII.2017, Locals leg.; **Hunan:** 4 ♂♂, 5 ♀♀ (WFPC), Mount Mangshan, Chenzhou, Hunan, 2–4.VII.2018, Ren-Zhi Zhang leg.; 1 ♀ (WFPC), Mount Mangshan, Chenzhou, Hunan, VII.2017, Hao Xu leg.; 3 ♀♀ (WFPC), Mount Mangshan, Chenzhou, Hunan, 23–25.VII.2016, Xin Chen leg.; 1 ♀ (WFPC), Zhongzhou, Shashi, Liuyang, Changsha, Hunan, 23.VI.2011, Hao Xu leg.; **Shaanxi:** 1 ♂ Baiche, 31°12'N 110°05'E, 13.-17.VI.1997, E. Kučera leg.; **Sichuan:** 1 ♀ (CWNU), Mount Emeishan, Sichuan, 27.VII.2014, Yu-Yu Zhou leg., CWNU; 1 ♂ (CWNU), Mount Emeishan, Sichuan, 30.VII.2014, Ying-Qing Luo leg.; 1 ♂, 1 ♀ (CWNU), Xuanhan County, Dazhou, Sichuan, 20.VIII.2014, Xiao-Yan Peng leg.; 2 ♀♀ (CWNU), Luzhou, Sichuan, 7.VII.2017, Qiu-Jie Yang leg.; 1 ♂ (WFPC), Mount Emeishan, Chengdu, Sichuan, VII.2014, Chao Zhou leg.; 2 ♀♀ (WFPC), Chengdu, Sichuan, VII.2013, Chao Zhou leg.; 1 ♂ (CZPC), 35 km east You-Yang, 21.-22.VII.1994.; 1 ♀ (CZPC), Moximian, Luding co., 13.-18.VII.1994, Beneš leg.; **Zhejiang:** 1 ♂, 1 ♀ (WFPC), Pan'an, Zhejiang, VI–VII.2016, Su-Jiong Zhang leg.; 1 ♀ (WFPC), Pan'an, Zhejiang, VI–VII.2016, Su-Jiong Zhang leg.; 1 ♀ (WFPC), Mount Dongbaishan, Zhejiang, alt. 900 m, 14.VII.2012, Tie-Xiong Zhao leg.; **VIETNAM:** 1 ♂ (PPPC), Vietnam Danang IV.85. Lg Bartovsky; 1 ♂ (NBCL), TONKIN Than Moi Juni-Juli H. Fruhstorfer; 2 ♂♂ (ANPC), N.-Vietnam, NE env. of Na Hang, 160 km NNW Ha Noi, 1.-14.VI.1996, 150–200 m, A. & R. Napolov leg.; 1 ♂ (MZUF), C.-VIETNAM, Kon Tum Province, ca. 30 km from Kon Plong, 1250 m, at light, 14°40,320N 108°15,829E, 4.-7.V.2016, L. Bartolozzi, A. Bandinelli, S. Bambi, V. Sbordoni leg.; 1 ♀ (MZUF), N.-VIETNAM, PhuTho Prov., Xuan Son National Park 500 m, at light, 18.-20.VI.2012, L. Bartolozzi, S. Bambi, F. Fabiano, E. Orbach leg.; 1 ♂ (CZPC), N. Vietnam, Vinh Phu Province, Tam Dao, 2.-11.VI.1985, Vít Kubáň leg.; 1 ♂ (CZPC), N. Vietnam, Vinh Phu Province,Tam Dao, 930 m, Vi.-VIII.1997, local collector leg.; 1 ♂, 1 ♀ (CZPC), Central Vietnam, Kon Tum Province, Kon Tum N.P., V. 2017, local collector leg.

**Distributions.** CHINA: Anhui, Beijing, Chongqing, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangxi, Sichuan, Shanxi, Shaanxi, Yunnan, Zhejiang; VIETNAM.

**Remarks.** This species was known from southern China (Lin 1996, 2002ab, Wang 2021b, Yu 2020) and has been reported from the Oriental Region by Zorn & Bezděk (2016).

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